



MEMORANDUM

Missouri Department of Transportation Design General Headquarters

TO: All General Headquarters and District Offices

FROM: Diane Heckemeyer
State Design Engineer

DATE: October 1, 2002

SUBJECT: Design
Development Manual Letter No. 5, 2002
Project Development Manual Revisions

Questions concerning the Project Development Manual revisions should be directed to General Headquarters, Design Standards Section, Dan Tschirgi (573) 526-2924 or David Silvester (573-526-2903).

NOTE	EXPLANATION
1	The following revisions are effective October 1, 2002.

ITEM	DESCRIPTION OF REVISION
Volume I Table of Contents	Revision dates changed for appropriate sections.
Figure 1-01.2	Errata changes to titles of D-61, D-63, D-64, D-66, and D-67 consistent with current use of these typical sections.
Section 2-01	Subsection 2-01.4 was revised for consistency with current procedures for 4R reports.
Figures 2-01.1, 2-01.2 and 2-01.6	These conceptual study report forms all referenced the "High Hazard Location" list. This list has been replaced by the "High Accident Intersections" and "High Accident Range" lists on the TMS database.
Figure 2-01.4	The reference to guardrail Subsection 6-05.10 has been corrected to 4-09.7(2).
Chapter IV Table of Contents	Made revisions to correspond to Section revisions.
Figure 4-02.1	The symbols for "Partial Controlled Access Highway" have been labeled more completely and the note has been revised to apply to all symbols as used in the plans.

ITEM	DESCRIPTION OF REVISION
Section 4-03	Guidelines for quality and clarity of submitted plans were sent out from the State Design Engineer on August 1, 2002. Items from this letter have been incorporated into Subsection 4-03.1. In Subsection 4-03.4(2), the geographic reference system (GRS) monument has been deleted from information required on the 2B sheet. Subsection 4-03.13(1)(a) has been clarified regarding the use of DSP or MSP numbers in the JSP table of contents and text heading.
Figure 4-03.2	In the sample Job Special Provisions Table of Contents (Roadway), JSP's have been deleted or renamed according to the current JSP list.
Figure 4-03.5	Geographic Reference System Monument Caps have been deleted from the list of R/W markers.
Section 4-04	In Subsection 4-04.2, additional guidance is provided for the cases where it is unavoidable to locate vertical and horizontal curves on bridges.
Section 4-05	In Subsection 4-05.8(15)(b), the width of the solid yellow diagonal hatched lines in advance of splitter islands on roundabouts has been corrected to be consistent with Figure 4-05.13.
Section 4-07	Subsection 4-07.3(1)(h) has been completely rewritten with the guidelines of General Letter No. 7, 2002 for two-way left-turn lanes.
Volume II Table of Contents	Revision dates changed for appropriate sections.
Section 5-04	In Table 5-04.1, the minimum vertical clearance of 17'-6" for pedestrian overpass facilities has been added to the table footnote. The minimum vertical clearance cited by AASHTO for freeway facilities will apply to all routes.
Figures 6-03.11 and 6-03.12	The second note in these figures have been updated to reflect the use of Type 1 Base.
Section 6-07	Subsection 6-07.6(2) has been updated to reflect the current "Missouri Vehicle Route Map."
Figure 6-07.1	Type 1 or Type 2 Aggregate for Base (4 in. Thick) has been added to the list under "Aggregate Base Course" because of its additional use as base under light and heavy duty pavements.
Figure 7-02.13	The recipient of the Example Letter Request for Funding and Prepayment has been updated.

ITEM	DESCRIPTION OF REVISION
Figure 8-03.13	Step one in the procedure for overhead span box truss design has been updated to use actual maximum pavement elevation instead of an assumed elevation.
Section 8-02	A requirement of the MUTCD was added to Subsection 8-02.3(10) for an “Emergency Vehicle” sign with an “Emergency Signal Ahead” supplemental plaque to be placed in advance of all emergency vehicle traffic control signals.
Figure 8-02.4	The “Fire Station Signal” sign was changed to “Emergency Signal” in accordance with the MUTCD, and a signal head was added facing the direction of approach of the emergency vehicle.
Section 8-04	In Subsection 8-04.5, the all references to “Permanent Raised Pavement Markers” has been changed to “Snowplowable Raised Pavment Markers.” In Subsection 8-04.5(1)(f), the last sentence has been added to emphasize that SRPM’s need to be removed and replaced as part of any surface treatment project over ¼-inch thick. Subsection 8-04.5(2) was revised to clarify that temporary marking is used with pay items where the traffic pattern is changed. On resurfacing or other projects where the marking is obliterated, temporary marking is at the contractor’s expense. Subsection 8-04.5(2)(e) on Temporary Raised Pavement Markers has been clarified by adding a definition of surface treatment.
Section 9-10	Revisions were made and a table was added to Subsection 9-10.2(4) to clarify the responsibility for design of multiple opening hydraulic structures. Subsection 9-10.8 was revised to state that the 2B sheet should list the slope of safety slope end sections and whether each end section is for a crossroad or parallel drainage structure. Subsection 9-10.16 was revised to be consistent with 4-08.1(2). Class 3 excavation does not include headwalls or culvert concrete.
Figure 9-10.5	A note was added to sheet 1 consistent with 4-08.1(2) that Class 3 excavation does not include headwalls or culvert concrete.
Microstation Design Forms	The titles of D-61, D-63, D-64, D-66, and D-67 have been corrected to be consistent with the drawings.
Microstation Design Form D2BS	The description of signs W01-6a and W01-7a were revised from “symbol on barricade” to “symbol with barricade” to clarify that signs are not mounted on barricades.
Microstation Design Forms D60, D61, D63 and D65	Minor changes were made to the title blocks and/or diagrams to correct inconsistencies.